

Chapter 1



Black-crowned night heron

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The Purpose and Need for Action

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Introduction and Background

This draft comprehensive conservation plan and environmental assessment (CCP/EA) for the Long Island National Wildlife Refuge Complex (Complex) combines two documents required by federal law: a comprehensive conservation plan, required by the National Wildlife Refuge System Improvement Act of 1997 (16 U.S.C. 668dd et seq.); and an environmental assessment, required by the National Environmental Policy Act of 1969 (42 U.S.C. 4321–4347).

Chapter 1 sets the stage for chapters 2 through 4 by

- describing the purpose and need for a CCP/EA for the Complex;
- identifying national, regional, and state plans that influenced this draft;
- highlighting the purpose for establishing each refuge in the Complex and their land acquisition histories;
- presenting the vision and goals for the Complex;
- explaining the planning process for developing this draft CCP/EA; and
- describing key issues, concerns, and opportunities.

Chapter 2 describes alternative management strategies for meeting goals and responding to key issues, and compares them to current management strategies.

Chapter 3 describes the existing physical, biological, and human environment.

Chapter 4 evaluates the foreseeable environmental consequences of implementing each of the proposed management alternatives.

Chapter 5 summarizes each public involvement activity, and credits U.S. Fish and Wildlife Service (Service) and non-service contributors.

Eight appendixes provide additional references and information used in compiling this document.

The Purpose and Need for a Comprehensive Conservation Plan

Our goal is a CCP that attains the vision and goals of the Complex, best achieves each refuge's purpose, contributes to the mission of the National Wildlife Refuge System, addresses key issues and relevant mandates, and uses sound principles of fish and wildlife science.

As NEPA requires, this draft CCP/EA evaluates a reasonable range of alternatives and the predictable socioeconomic, physical, and biological impacts of implementing each alternative. We designed each alternative with the potential to develop into a CCP for the refuges. This plan will guide our management decisions and actions over the next 15 years, and help the public and our partners understand and support it.

Developing a CCP is vital for the management of each refuge. The final CCP will provide strategic management direction over the next 15 years, by

- providing a clear statement of desired future conditions for habitat, wildlife, visitor services, and facilities;
- providing refuge neighbors, visitors, and partners with a clear understanding of the reasons for management actions;
- ensuring refuge management reflects the policies and goals of the System and legal mandates;
- ensuring the compatibility of current and future public use;
- providing long-term continuity and direction for refuge management; and
- providing direction for staffing, operations, maintenance, and developing budget requests.

The need to develop a CCP for the Complex is two-fold. First, the Refuge Improvement Act requires that all national wildlife refuges have a CCP in place by 2012 to help fulfill the mission of the System. Second, the Complex lacks a master plan that clearly establishes priorities and ensures consistent, integrated management among its nine units.

Our vision statement and Complex-wide goals, management strategies, and actions will help us effectively manage natural resources and priority, wildlife-dependent recreational uses. Involving the public and conservation partners will help us resolve persistent issues of non-wildlife-dependent public use, access, and management for threatened or endangered species. Those reasons clearly underscore the need for the type of strategic direction a CCP provides.

Analysis Area

The Complex comprises seven national wildlife refuges, one wildlife management area, and one refuge sub-unit. Figure 1.1 below shows their locations.

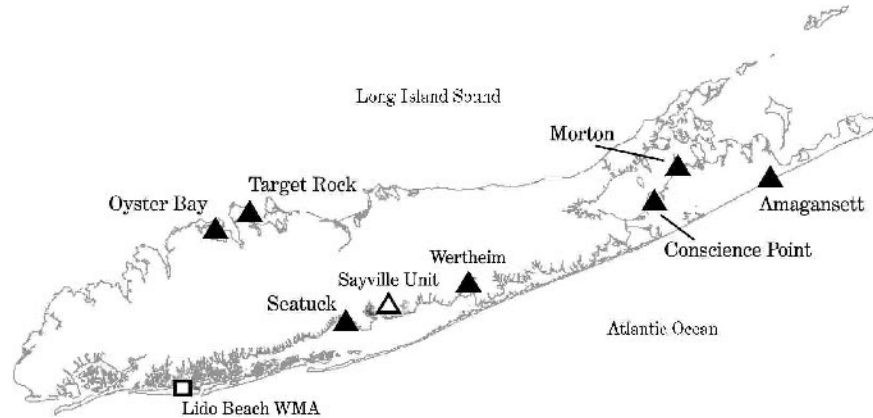


Figure 1.1. The Long Island National Wildlife Refuge Complex

History of Refuge Establishment, Acquisition, and Management Purposes

We acquire refuge lands under a variety of legislative acts and administrative orders. Those authorities for transferring and acquiring land usually stipulate one or more purposes for obtaining it. In accordance with the mission of the National Wildlife Refuge System, these purposes define the basis and standards with which we establish and subsequently manage refuges. The Service acquired most of the refuges in the Complex under the authority of the Migratory Bird Conservation Act of 1929 (16 U.S.C. 715–715r) “for use as an inviolate sanctuary, or for any other management purposes, for migratory birds.” That is the purpose of refuges acquired under this authority, unless otherwise noted. See appendix B for details. Table 1.1 on page 1-5 depicts the size of each refuge and the year the Service acquired it.

Amagansett National Wildlife Refuge graces the shore of the Atlantic Ocean on Long Island’s south fork in the town of East Hampton. We acquired the 36-acre former lifeboat station in 1968, under authority of the “Transfer of Certain Real Property for Wildlife Conservation Purposes Act” (16 U.S.C. 667b–667d) for “*particular value in carrying out the national migratory bird management program*” by transfer from the U.S. Coast Guard. The refuge is situated adjacent to the town of East Hampton and wildlands owned and managed by The Nature Conservancy.

Table 1.1. Refuge Acquisition Year and Size

Acquired	Refuge Name	Acres
1947	Wertheim	2,572
1954	Morton	187
1964	Conscience Point	60
1967	Target Rock	80
1968	Amagansett	36
1968	Oyster Bay	3,204
1968	Seatuck	209
1969	Lido Beach	22
1992	Sayville	26

The protection and management of fragile shore habitat and wildlife give Amagansett special significance. A unique double dune system embodies marine sand beach, primary dunes, secondary dunes, swales, fens, bogs, and oak scrub. Some rare plants, including several orchids, occur on the refuge. The area serves as an important migration route for raptors, songbirds, and shorebirds; it also provides wintering grounds for the Ipswich sparrow, a race of the savannah sparrow. Piping plover find suitable habitat and forage here, and have also nested here as recently as 2005, as well as immediately to the west (see chapter 3, map 3-1).

Conscience Point National Wildlife Refuge can be found on the south fork of Long Island in the town of Southampton, bordered by other salt marshes in what is regionally known as the Cow Neck Complex. Low-density housing, agricultural land, and private game land also border this 60-acre refuge. The Service acquired Conscience Point in 1964 by donation from a private individual under the authority of the Migratory Bird Conservation Act.

The maintenance of a maritime grassland community, a habitat of regional significance, distinguishes Conscience Point. Neotropical migratory songbirds find breeding habitat at the refuge, and the wetlands support wintering black ducks and other migratory birds. Its other habitats include grassland, oak-beech forest, shrubland, kettle holes, freshwater marsh, and salt marsh (see chapter 3, map 3-2). The refuge also supports such federal-listed species as bald eagle and sandplain gerardia.

Elizabeth A. Morton National Wildlife Refuge, 187 acres on the north shore of Long Island's south fork in the town of Southampton, came as a gift from Elizabeth A. Morton in 1954 under the authority of the Migratory Bird Conservation Act. The refuge is located near Sag Harbor, and includes a peninsula one and a half miles long, locally known as Jessup's Neck, which separates Little Peconic Bay from Noyack Bay.

The north-south axis of the peninsula between Long Island's two forks makes the refuge an important migration corridor for migratory shorebirds, raptors, and songbirds. State- and federal-listed threatened or endangered species, like piping plovers and least terns, find nesting and foraging habitat at Morton refuge (see chapter 3, maps 3-3 and 3-4).

Lido Beach Wildlife Management Area, a former Nike missile site, was obtained in 1969 in a transfer of federal property from the Department of the Army, which recognized the area's "*particular value in carrying out the national migratory bird management program.*" The property totals 22 acres in Nassau County on the bay side of Hempstead's Lido Beach. The area lies about 20 miles east of New York City and, like the rest of Hempstead Bay, is surrounded by dense residential development. The WMA is bordered by a public bathing beach to the south, a golf course to the west, Hempstead Bay to the north, and the Nike Environmental Education Center to the east.

The tidal wetlands of Lido Beach support wintering populations of black duck and Atlantic brant, and provide important breeding, migrating, and wintering habitat for other waterfowl, colonial nesting wading birds, raptors, and shorebirds (see chapter 3, map 3-5).

Oyster Bay National Wildlife Refuge was donated to the Service by the Town of Oyster Bay in 1968 as a habitat for migratory birds, particularly wintering waterfowl, under the authority of the Migratory Bird Conservation Act. The refuge, totaling 3,204 acres from the bay bottom up to mean high water, is located on the north shore of Long Island. The waters and marshes of Oyster Bay refuge surround Sagamore Hill National Historic Site, home of Theodore Roosevelt, the founder of the first national wildlife refuge in 1903.

Oyster Bay refuge is unique in the System, serving as a marine refuge rather than the more traditional terrestrial refuge; it comprises the waters and marshes of Oyster Bay and Cold Spring harbors. Those marine habitats support a variety of aquatic-dependent wildlife, especially migratory waterfowl of special focus (see chapter 3, maps 3-6 and 3-7).

Sayville, a disjunct sub-unit of Wertheim refuge, was established in 1992 by the transfer of a 26-acre parcel of vacant Federal Aviation Administration land through the General Services Administration under the authority of the Transfer of Certain Real Property for Wildlife Conservation Purposes Act (16 U.S.C. 667b–667d) and the Endangered Species Act (16 U.S.C. 1531–1544, 87 Stat. 884). In 1990, Congress legislated the transfer of an additional 101-acre parcel from the FAA to the Service. That exchange was to be completed after the FAA had removed all buildings and improvements. Those have since been removed, but the FAA's renewed interest in that location has delayed the transfer.

The unit is located in West Sayville, New York, about two miles inland from the Great South Bay. This is the only land-locked unit in the Complex, bordered on the north by an elementary school and small industry; on the east by residential development; on the south

by property of the Board of Cooperative Education Services; and on the west by athletic fields. The 26-acre unit is primarily pitch pine habitat. The 101-acre property currently hosts a viable population of the federal-listed endangered plant sandplain gerardia—the largest population in the state and, possibly, in the Northeast (see chapter 3, map 3-8).

Seatuck National Wildlife Refuge was acquired in 1968 as a donation from the Peters family under the Migratory Bird Conservation Act. The refuge, located in Islip on the south shore of Long Island, consists of 209 acres bordering the Great South Bay, and is separated from the Atlantic Ocean only by Fire Island. The Suffolk County Department of Parks, Recreation, and Conservation owns the property to the west; suburban development lies to the north; Champlin Creek lies to the east; and Great South Bay lies to the south.

With its diverse mix of upland and wetland habitat types, Seatuck hosts more than 200 bird species, and serves as an oasis in a heavily developed urban area. Black ducks are one of the most common species of wintering waterfowl, and hundreds of migrating sandpipers forage in the salt pannes in the fall. Seatuck is being studied as a potential transplant site for sandplain gerardia (see chapter 3, maps 3-9 and 3-10).

Target Rock National Wildlife Refuge was acquired in 1967 under the Migratory Bird Conservation Act as a donation from the Eberstadt family, who maintained the land as a garden estate. The 80-acre refuge is located on the north shore of Long Island in the Village of Lloyd Harbor, 25 miles east of New York City.

Target Rock refuge consists of mature oak-hickory forest, a half-mile of rocky beach, a brackish pond and several vernal ponds. The beach and adjacent waters support black ducks and diving ducks; the uplands provide important habitat for migrating warblers (see chapter 3, map 3-11 and 3-12).

Wertheim National Wildlife Refuge, the headquarters of the Complex, comprises 2,572 acres on the south shore of Long Island in Shirley, New York (see chapter 3, map 3-13 through 3-15). The Service acquired it in 1947 under the authorities of the Migratory Bird Conservation Act and the Refuge Recreation Act (16 U.S.C. 460k-460k-4), as a donation from Cecile and Maurice Wertheim, who maintained the area as a private waterfowl hunting reserve. In addition to the refuge purpose in the Migratory Bird Conservation Act, the Refuge Recreation Act specifies the authorized purposes of “(1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, and (3) the conservation of endangered species or threatened species.” An additional parcel was

donated in 1974, and the Service has spent more than \$6 million in acquiring other tracts.

All of the refuges in the Complex are managed from Wertheim refuge. The largest contiguous wetland on Long Island, Wertheim supports wintering and nesting waterfowl and breeding Neotropical migrants, and protects the Carmans River Estuary. The Carmans River, which winds through the refuge, is a New York State-designated scenic river and a state-designated recreational river under its Wild Scenic and Recreational River Act. See appendix B for details.

Vision Statement

Early in the planning process, our team developed a draft vision statement to provide a guiding philosophy and sense of purpose for the CCP. It qualitatively described the desired future character of the Complex through 2015 and beyond. It has been refined throughout the planning process with input from our partners and the public. It will guide program emphases and priorities at the Complex.

The Long Island National Wildlife Refuge Complex will preserve, manage, and restore some of the last significant natural areas for wildlife on Long Island, New York. The Complex will comprise varied and important wildlife habitat, ranging from coastal systems to native grasslands to mature forests. These habitats, present in nine distinct units, will support threatened and endangered species in addition to hundreds of species of migratory birds and other wildlife within the Atlantic Flyway.

Located adjacent to the nation's major media center, the Complex will use its proximity to New York City and urban communities to increase public awareness, understanding, and support of the National Wildlife Refuge System. We will accomplish this by providing compatible priority wildlife-dependent recreational and educational opportunities. We will work together with partners and local communities to further protect this network of lands and its wildlife from increasing pressures and threats. Through the use of the best scientific information and active habitat management, we will contribute to fulfilling the mission of the National Wildlife Refuge System for future generations.



Morton Beach at Little Peconic Bay.
R. Parris/USFWS

National and Regional Mandates Guiding this Project

The U.S. Fish and Wildlife Service and its Mission

This section highlights Service policy, legal mandates and resource plans, arranged from the national to the local level, that directly influenced the development of this draft CCP/EA.

National wildlife refuges are managed by the USFWS, part of the Department of Interior. The Service mission is shown on page 18.

The Service has specific federal trust responsibilities for migratory birds, threatened or endangered species, anadromous fish, and certain marine mammals, as well as for lands and waters administered by the Service for the management and protection of those resources. It also enforces federal wildlife laws and international treaties on importing and exporting wildlife, assists with state fish and wildlife programs, and helps other countries develop conservation programs.

The National Wildlife Refuge System and its Mission

The System is the world's largest collection of lands and waters set aside specifically for conserving wildlife and protecting ecosystems. More than 545 national wildlife refuges, in every state and a number of U.S. Territories, protect more than 95 million acres. More than 40 million visitors annually hunt, fish, observe and photograph wildlife, or partake of environmental education and interpretation on refuges.

The passage of the National Wildlife Refuge System Improvement Act of 1997 established a unifying mission for the System, a new process for determining compatible public use on refuges, and the

requirement to prepare a comprehensive conservation plan for each refuge in the System. The Refuge Improvement Act states that, first and foremost, the System must focus on wildlife conservation. It further states that the national mission, coupled with the purpose(s) for which each refuge was established, will provide the principal management direction for each refuge. The mission of the System is highlighted in the sidebar of this page.

The mission of the National Wildlife Refuge System is "to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats in the United States for the benefit of present and future generations of Americans."

On public use, the Refuge Improvement Act declares that all existing or proposed public uses must be compatible with each refuge's purpose. It highlights six wildlife-dependent public uses to receive enhanced consideration in CCPs. Those six uses are hunting, fishing, wildlife observation and photography, and environmental education and interpretation. The refuge manager determines the compatibility of an activity by evaluating its potential impact on refuge resources, insuring that the activity supports the System mission, and that the activity does not materially detract from or interfere with the refuge purpose.

The Refuge Improvement Act also ensures that, for the first time, the public is formally involved in decisions on recreation and other public uses on units of America's 95-million-acre System. The legislation requires the Secretary of the Interior to ensure that the mission of the System and the purposes of the individual refuges are carried out. It requires the Secretary to maintain the biological integrity, diversity, and environmental health of the System. The continued growth of the System is to be planned and directed in a way that will contribute to conserving the ecosystems of the United States.

The legislation further stipulates that each comprehensive conservation plan "shall identify and describe

- (A) the purposes of each refuge comprising the planning unit—*found in this chapter*;
- (B) the distribution, migration patterns, and abundance of fish, wildlife, and plant populations and related habitats in the planning unit—*found in chapter 3*;
- (C) the archaeological and cultural values of the planning unit—*also in chapter 3*;
- (D) such areas in the planning unit that are suitable for use as administrative sites or visitor facilities—*found in chapter 2*;
- (E) significant problems that may adversely affect the populations and habitats of fish, wildlife, and plants in the planning unit and the actions necessary to correct or mitigate such problems—*found in chapters 1, 2 and 3*; and
- (F) opportunities for compatible wildlife-dependent recreational uses—*found in chapter 2*."

Compatible wildlife-dependent recreational uses are legitimate and appropriate public uses of the System. The definitions of several key terms follow.

Compatible use: "...a wildlife-dependent recreational use or any other use of a refuge that, in the sound professional judgment of the Refuge Manager, will not materially interfere with or detract from the fulfillment of the mission of the System or the purposes of the refuge."

Wildlife-dependent recreational use: "...a use of a refuge involving hunting, fishing, wildlife observation and photography, or environmental education and interpretation."

Sound professional judgment: "...a finding, determination, or decision that is consistent with principles of sound fish and wildlife management and administration, available science and resources, and adherence to the requirements of this Act and other applicable laws."

Fulfilling the Promise

The vision statements and recommendations in the “Fulfilling the Promise” report (USFWS) helped guide our development of the goals, strategies and actions for this draft CCP/EA. “This report on the National Wildlife Refuge System is the culmination of a year-long process involving teams of Service employees who examined the Refuge System within the framework of Wildlife and Habitat, People, and Leadership. The report was the focus of the first-ever System Conference held in Keystone, Colorado in October 1998, attended by every refuge manager in the country, other Service employees, and scores of conservation organizations.... The heart of the report is the collection of vision statements and 42 recommendations....”

Other Legal and Policy Mandates

The administration of national wildlife refuges is governed by various international treaties, federal laws, and regulations affecting land and water as well as the conservation and management of fish and wildlife resources. Policies for management options of refuges are further refined by the Secretary of the Interior and guidelines established by the Director of the U.S. Fish and Wildlife Service to conform to key legislation affecting national wildlife refuges.

The Refuge Recreation Act of 1962 requires that any recreational use of refuge lands can be an appropriate incidental or secondary use if it is practicable and consistent with the primary objectives for which a refuge was established, and that those uses not interfere with other previously authorized operations.

The National Wildlife Refuge System Administration Act of 1966 authorizes Secretaries of the Interior to permit uses of a refuge whenever they determine “that such uses are compatible with the major purposes for which such areas were established.”

Although the purpose for their establishment provides the foundation for managing refuges, they must also comply with a variety of other federal laws, Executive Orders, treaties, interstate compacts, and regulations on conserving and protecting natural and cultural resources. Appendix B summarizes some important federal laws governing refuge management, including the Clean Water Act, Clean Air Act, the National Historic Preservation Act (16 U.S.C. 470–470b, 470c–470n), the Archaeological Resources Protection Act (16 U.S.C. 470aa–470ll), and the Endangered Species Act. This draft CCP/EA is written to fulfill compliance with NEPA. The Service Manual and Refuge Manual contain Service policies and guidance on planning and day-to-day refuge management.

Regional Plans and Other Planning Efforts

North American Waterfowl Management Plan

The NAWMP outlines the strategy among the United States, Canada, and Mexico to restore waterfowl populations by protecting, restoring, and enhancing habitat in 11 U.S. Joint Venture Areas and three other Joint Ventures: Arctic Goose, Black Duck, and Sea Duck. Partnerships among federal, state and provincial governments, tribal nations, local businesses, conservation organizations, and individual citizens protect that habitat. The Complex lies in the Atlantic Coast Joint Venture, which has identified 6 focus areas of both wetlands and adjacent uplands for protection throughout Long Island (ACJV 2002). See figure 1.2.

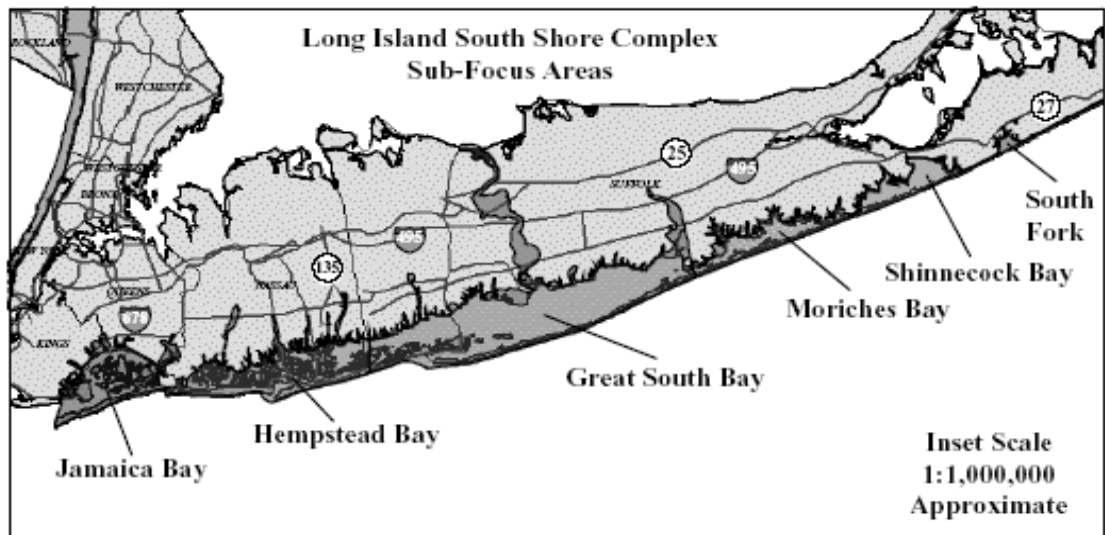


Figure 1.2 Long Island Waterfowl Focus Areas (ACJV 2002)

Because black ducks winter on Long Island, the goals and objectives of the Black Duck Joint Venture would also apply in managing the Complex. The Black Duck Joint Venture has identified coastal salt marsh habitats along the mid-upper Atlantic coast as important wintering habitat. For more information, visit http://northeast.fws.gov/migratorybirds/ny_waterfowl_web_map.pdf.

Partners in Flight Landbird Conservation Plan: Physiographic Area 9, Southern New England

In 1990, Partners in Flight was conceived as a voluntary, international coalition of government agencies, conservation organizations, academic institutions, private industry, and other citizens dedicated to reversing the downward trends of declining species and “keeping common birds common.” The foundation of PIF’s long-term strategy for bird conservation is a series of scientifically based Landbird Conservation Plans. The goal of each PIF Landbird Conservation Plan is to ensure long term maintenance of healthy populations of native landbirds (Partners in Flight 2000).

Table 1.2. Focal Shorebird Species for the Bird Conservation Region

black-bellied plover
semipalmated plover
American oystercatcher
greater yellowlegs
lesser yellowlegs
solitary sandpiper
spotted sandpiper
whimbrel
ruddy turnstone
red knot
sanderling
semipalmated sandpiper
least sandpiper
white-rump sandpiper
dunlin
short-billed dowitcher

The plan identifies focal species for each habitat type from which population and habitat objectives and conservation actions will be determined. We utilized this draft document for the list of priority species to consider in management. A final plan that will include management recommendations will help direct future landbird management on the Complex.

The Southern New England physiographic area covers parts of northern New Jersey, southern New York including Long Island, the majority of Connecticut, all of Rhode Island, most of eastern Massachusetts, the southeastern corner of New Hampshire, and south-coastal Maine. Urbanization and associated human activities severely threaten remaining high-priority habitats, especially maritime marshes and dunes, relict grasslands, and mature deciduous forests. In addition to many local threats to remaining breeding-bird habitats, this area contains numerous critical stopover sites for landbirds and shorebirds. Table 1.2 lists focal shorebird species in the bird conservation region. The total value of those sites has not been fully assessed yet, and conservation strategies for priority species during stopover lag behind those for breeding species.

New York's Important Bird Areas program has identified 29 key sites on Long Island, and is developing conservation strategies for them. Some specific conservation recommendations for Physiographic Area 9 follow.

- Complete intensive survey and monitoring for high-priority species to identify most important areas in need of protection.
- Identify and designate Bird Conservation Areas, in which long-term sustainability of priority bird populations is a primary management objective.
- Protect and restore coastal wetland habitats to enhance breeding and wintering populations of American black duck and ensure long-term sustainability of marsh sparrow populations.
- Protect and manage remaining mature forests to maximize benefits to cerulean warbler; e.g., preserve tallest trees, encourage maturing of canopy species, prevent fragmentation of existing forests.
- Identify critical sites for migration stopover; integrate habitat objectives into local land-use planning and outreach efforts (Partners in Flight 2000).

U.S. Shorebird Conservation Plan: Northern Atlantic Regional Shorebird Plan

Species of highest priority in this region include piping plover, American oystercatcher, red knot, whimbrel, American woodcock, and Eskimo curlew. Populations are known with some confidence for two high-priority species: breeding piping plovers and migrating red knots. Piping plovers nesting in the region numbered 1,135 pairs in

1997, or most (81 percent) of the Atlantic Coast population. An estimated 80 percent and possibly more of the New World populations of red knots and whimbrels migrate through the region each spring, making this Northern Atlantic region crucial in their survival (U.S. Shorebird Conservation Plan 2000).

Northeast Coastal Areas Study

Completed in August 1991, this 250-page study identified 40 major coastal habitat complexes in need of protection in southern New England and Long Island. The study assessed the status of the region's living resources, and develops strategies to protect, conserve, and enhance the resources and their habitat complexes. Table 1.3 provides details of major habitat types in New York. Those habitat complexes extend from Cape Cod to Staten Island, and include Long Island Sound and the tidal reaches of the Connecticut River. The study identifies 153 federal trust species and 15 significant types of coastal habitat. Trust species are federal-listed endangered or threatened species and candidate species, migratory birds, anadromous fish, and marine mammals. The study also emphasizes the need to promote and develop partnerships and cooperative agreements among all landowners, public and private, to most effectively and efficiently manage larger habitat complexes and their protection. This report has been used to set priorities for acquisition through the System and partnerships (USFWS 1991).

Table 1.3. Estimated acreage, percent of public ownership, and condition of major habitat types in New York.

Habitat type	Acres	Ownership*	Condition**
Beach Front (high/low energy, sandflats, rocky beach)	37,200	20	1,2,3
Intertidal <i>non-vegetated</i> (mudflats, mud banks)	800,000	70	
Intertidal <i>vegetated</i> (salt marshes)	25,100	70	4
Managed wetlands (impoundments, dredge)	600	100	
Inland habitats (airports, pastures)	10,000	0	2

* Ownership: Estimated percent in public or conservation ownership

** Known Condition Issues: (1) Development threats (2) Human disturbance/Alternate management
(3) Degraded, polluted, etc. (4) Exotic vegetation

Significant Habitats and Habitat Complexes of the New York Bight Watershed

Completed in 1996, this 1,025-page document focuses on the regional geographic distribution and population status of more than 1,000 key marine, coastal and terrestrial species inhabiting the New York Bight watershed. The New York Bight includes the Atlantic coastlines of Long Island and New Jersey out to the continental shelf. The geographic scope of the study comprises the marine waters of the New York Bight, the New York-New Jersey Harbor Estuary, and

the entire watershed of the Bight and Harbor, including the Hudson River up to the Troy Dam (USFWS 1996b).

The study assesses threats to the integrity of habitats and the species dependent on them, and identifies those habitats and species requiring both immediate and long-term protection, conservation, enhancement, or restoration. That information is being used to emphasize those sites to federal, state, regional, and local planners, resource managers, conservation commissions, regulatory authorities, and the many private conservation organizations throughout the region who, in turn, further analyze specific habitat areas where species are found in order to protect, conserve, and manage them (USFWS 1996b).

Ecosystem Conservation

During the last decade, we have emphasized ecosystem conservation, particularly the role of refuges in ecosystems, and their ability to affect the long-term conservation of natural resources. Typically using large river watersheds to define ecosystems, teams develop goals and priorities for research and management.

Long Island is split by the boundaries of the Hudson River/New York Bight ecosystem, and the Connecticut River/Long Island Sound Ecosystem. The latter covers the north shore of Long Island including Oyster Bay and Target Rock refuges.

Long Island Sound Study

Long Island Sound belongs to a system of 28 estuaries included in the National Estuary Program under section 320 of the Clean Water Act. The LISS is a cooperative effort involving researchers, regulators, user groups and other concerned organizations and individuals. The study describes ongoing programs and lists commitments and recommendations for actions that specifically address the Sound's priority problems. Approved in September 1994, the Comprehensive Conservation and Management Plan for Long Island Sound is a product of the LISS. That plan calls for a sustained, cooperative effort among the states of Connecticut and New York, the Environmental Protection Agency and other federal agencies, local governments, and the private sector (LISS 2001).

Migratory Bird Program Strategic Plan

The Migratory Bird Program completed a 10-year strategic plan in January 2004. Refuges provide high quality habitat for many migratory birds. The MBP seeks to conserve and manage migratory bird populations and their habitats. Two strategies to achieve those goals are bird population monitoring and habitat management. Refuges are currently conducting biological surveys and managing habitat. The program recognizes the opportunity for using standardized monitoring protocols and habitat assessments on refuges, contributing to region-wide assessments of population trends and effects of habitat management on migratory birds (USFWS 2004).

**North American
Bird Conservation
Initiative**

The NABCI brings together the Partners in Flight, shorebird, waterbird, and waterfowl plans in a coordinated effort to protect and restore all native bird populations and their habitats in North America. All bird conservation partnerships reduce redundancy in the structure, planning and implementation of conservation projects. The initiative uses bird conservation regions to guide landscape-scale, science-based approaches to conserving birds and their habitats.

The New England/Mid-Atlantic Coast BCR has the densest human population of any region in the country. Much of the land formerly cleared for agriculture is now either forest or in residential use. The highest priority birds are in coastal wetland and beach habitats, including the salt marsh sharptailed sparrow and Nelson's sharptailed sparrow, seaside sparrow, piping plover, American oystercatcher, American black duck, and black rail. The region includes critical migration sites for red knot, ruddy turnstone, sanderling, semi-palmated sandpiper, and dunlin. Most of the continental population of the endangered roseate tern nests on islands off the southern New England states. Other terns and gulls nest in large numbers, and large mixed colonies of herons, egrets, and ibis may form on islands in the Delaware and Chesapeake Bay regions.

Estuarine complexes and embayments created behind barrier beaches in this BCR are extremely important to wintering and migrating waterfowl, including about 65 percent of the total wintering American black duck population, along with large numbers of greater scaup, tundra swan, gadwall, brant, and canvasback. The exploitation and pollution of Chesapeake Bay and other coastal zones and the accompanying loss of submerged aquatic vegetation have significantly reduced their value to waterfowl (USFWS 2000). Visit <http://www.nabci-us.org/aboutnabci/bcrdescrip.pdf> for more information.

**State
Comprehensive
Wildlife
Conservation Plan**

In Fall 2001, Congress established a new State Wildlife Grants program that provided funds to state wildlife agencies for the conservation of fish and wildlife and their habitats. Each state was charged with developing a Comprehensive Wildlife Conservation Plan by October 2005. The New York State Department of Environmental Conservation developed a Comprehensive Wildlife Conservation Strategy that addressed the wildlife species in greatest need of conservation in the state. The development and submission of this strategy to the Service establishes New York's eligibility to receive State Wildlife Grant funds, which are apportioned by the Service.

The CWCS utilizes best available data on the status of fish and wildlife species to define a vision and establish a strategy for state wildlife conservation and funding. The objectives and goals defined

within the CWCS address the entire diversity of fish and wildlife and their habitats. The CWCS is a collaborative effort among agencies, organizations and individuals with an interest in New York's wildlife. It is Service policy to issue a final conservation plan for each unit, to the extent practicable, consistent with fish and wildlife conservation plans of the state in which the refuge is located.

**Sandplain Gerardia
(*Agalinis acuta*)
Recovery Plan**

The recovery plan for the federal-listed endangered sandplain gerardia identifies the most significant factor leading to the decline of the species as the loss or degradation of suitable habitat. Habitat degradation and loss is caused by increased development, vegetative succession, and changing historical disturbance regimes. Furthermore, agricultural development and sand and gravel mining have destroyed large amounts of potential habitat. Several sites in New York, particularly on Long Island, are identified as areas where sandplain gerardia grows. The plan describes the ecology of the species and suggests management techniques for recovery (USFWS 1989). We used the recovery plan while formulating our objectives for sandplain gerardia.

**Piping Plover,
Atlantic Coast
Population, Revised
Recovery Plan**

The piping plover is the only federal-listed endangered or threatened species that currently breeds on refuge lands in the Complex. The primary objective of the revised recovery program is to remove the Atlantic coast piping plover population from the List of Endangered and Threatened Wildlife and Plants

- by achieving well-distributed increases in numbers and productivity of breeding pairs, and
- providing for the long-term protection of breeding and wintering plovers and their habitats.

The Recovery Plan incorporates guidelines developed in 1994 by our Ecological Services Division, and includes guidelines for managing recreational activities in piping plover breeding habitat. Although those recommendations are not regulatory, they continue to serve as our best professional advice on complying with the Endangered Species Act (USFWS 1996a).

**Roseate Tern Recovery
Plan, Northeastern
Population (First
Update 1998)**

This revised roseate tern recovery plan was completed in 1998. The plan summarizes life history, ecology, population status, and known threats to the recovery of this federal-listed endangered species. The following recovery objectives were established:

Primary objective: To increase the Northeast nesting population of roseate terns (U.S. and Canada) to 5,000 breeding pairs. This total should include at least six large colonies with high productivity within the species' current geographic distribution.

Secondary objectives:

- To expand the number of roseate tern breeding colonies to 30 or more sites; and,
- To expand the breeding range to historically occupied areas south of the current range.

Over 50 specific tasks are identified that need to be undertaken to meet recovery objectives. We used this plan as we developed management goals and objectives for roseate terns (USFWS 1998).

**Regional Wetlands
Concept Plan –
Emergency Wetlands
Resources Act**

In 1986, Congress wrote the Emergency Wetlands Resources Act to promote the conservation of our nation's wetlands. The Act directed the Department of Interior to develop a National Wetlands Priority Conservation Plan identifying the location and types of wetlands that should receive priority for acquisition by federal and state agencies using Land and Water Conservation Fund appropriations. In 1990, our Northeast Region completed a Regional Wetlands Concept Plan identifying a total of 850 wetland sites in the region that warrant consideration for acquisition due to wetland values. The wetland values, functions, and potential threats for each site were cited; 150 sites in the State of New York were listed. Of those, 53 sites are located in Suffolk County and 3 in Nassau County (USFWS 1990).

Our mission is "working with others to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people."

**Goals for the
Complex**

Our planning team developed the following goals for the Complex after reviewing applicable laws and policies, regional plans, the vision statement, the purpose of each refuge, and public comments. All of the goals fully comply with and support national and regional mandates and policy.

In order to provide protection and achieve viable population levels for endangered species and migratory birds and fish, the following four habitat goals have been proposed. They will help protect, restore and enhance the native habitats necessary and maximize their use by endangered species and migratory birds and fish:

- Goal 1.** **Improve the biological diversity and integrity of upland cover types to sustain high quality habitat for migratory passerine birds.**
- Goal 2.** **Restore the biological health of aquatic habitats to high quality conditions on the Complex salt marshes, bays, tidal tributaries, and impoundments to benefit waterfowl and shorebirds dependent on these systems, while also supporting other native, wetland-dependent species.**

Goal 3. **Restore and increase the biological diversity and integrity of native grasslands to foster endangered plant recovery and the communities upon which they depend.**

Goal 4. **Enhance the functionality of coastal strand habitats as they relate to beach-nesting colonial water birds and shorebirds to meet optimal population levels.**

To increase community support by raising public and partner awareness and understanding of the Complex and its wildlife and habitat conservation is important. To enhance visitor opportunities for wildlife-dependent recreation that do not conflict with resource protection or management programs, and to apply partnerships in the areas of resource conservation and public use, we propose the following two goals.

Goal 5. **Provide priority wildlife-dependent recreational and educational opportunities when compatible with the resource and available funding.**

Goal 6. **Communicate and collaborate with local communities and partners throughout Long Island to promote the National Wildlife Refuge System and the Complex.**

The Comprehensive Conservation Planning Process

Effective conservation begins with community involvement. We used a variety of public involvement techniques to ensure that our future management of the refuge would reflect the issues, concerns and opportunities expressed by the public. See the comprehensive conservation process and NEPA compliance flow chart in figure 1.3.

We held Open Houses and Public Information Meetings throughout Suffolk and Nassau Counties at five different locations in fall 2000, advertised locally through news releases, paid advertisements, and through our mailing list. The Open House sessions were for people to learn informally about the project and have their questions or concerns addressed in a one-on-one setting. The evening Public Information Meeting sessions usually included a slideshow presentation about the refuge, a brief review of the System and our planning process, and a question-and-answer session. We encouraged all participants to express their opinions and suggestions. Those public meetings allowed us to gather information and ideas from local residents, adjacent landowners, and various organizations and agencies.

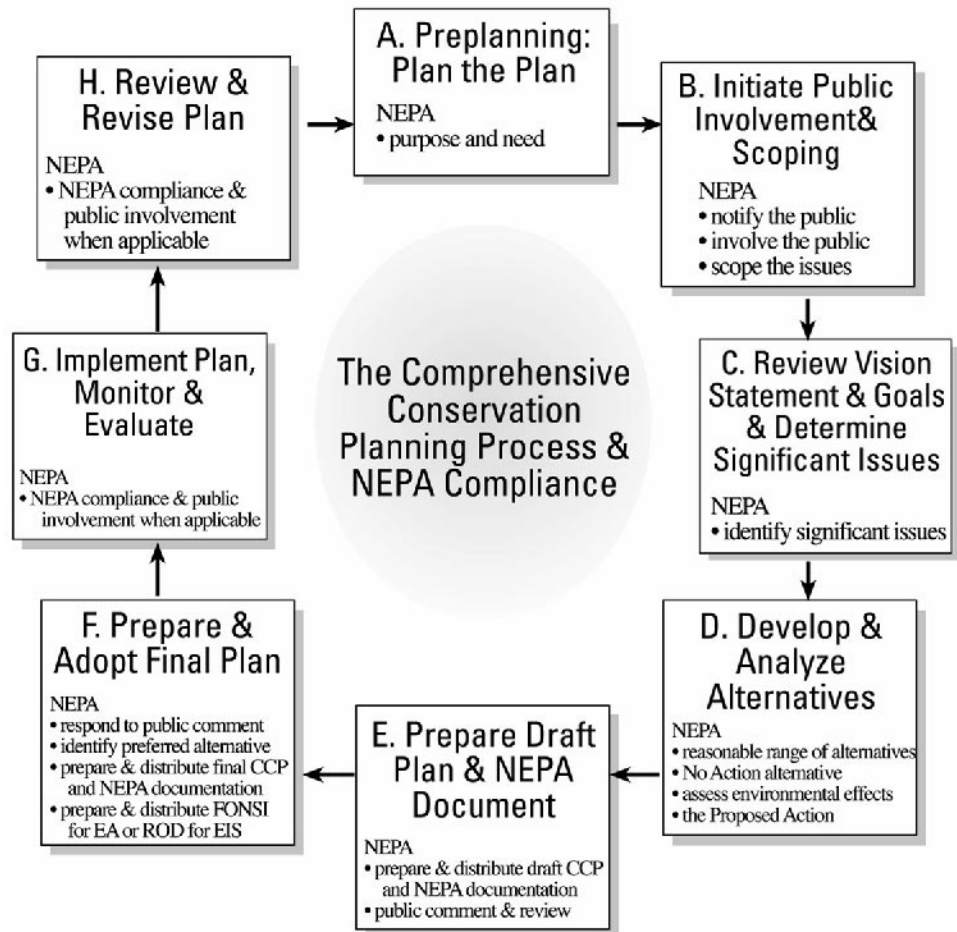


Figure 1.3. The Comprehensive Conservation Planning Process and NEPA Compliance

We developed an Issues Workbook to encourage written comments on such topics as wildlife habitats, exotic nuisance species, and public access to refuge lands, and mailed it to a diverse group of more than 1,500 people on our mailing list, gave it to people who attended a public meeting, and distributed it to anyone who requested one. More than 100 people returned completed workbooks.

The CCP must be formally revised every 15 years, but earlier if it is determined that conditions affecting the refuge have changed significantly. We will periodically monitor the plan to ensure that its strategies and decisions are being accomplished. We will use that data collected in routine inspections or programmatic evaluations to continually update and adjust management activities.

Following a 30-day public review of this draft CCP/EA, we will compile and respond to public comments in an appendix to the final plan, then submit that plan to our Regional Director for concurrence and approval of the preferred alternative. The Regional Director will then issue a decision, and we will publish a Notice of Availability for

the final document in the Federal Register. Then we will distribute the final plan to all interested parties.

Issues, Concerns, and Opportunities

Key issues, along with goals, formed the basis for developing and comparing different management alternatives. Public and partner meetings and further team discussions produced the key issues briefly described below. A range of opinions on how best to resolve these issues and meet those goals generated the alternatives in chapter 2.

Managing threatened or endangered species and other species and habitats of special concern

Protecting federal-listed endangered or threatened species is integral in the fundamental mission of the System. Other federal trust species of primary concern include migratory birds, anadromous fish, and certain marine mammals. As part of the CCP process we initiated intra-service consultation with our Ecological Service's program to evaluate potential impacts of our proposed management



Piping plover eggs
R. Parris/USFWS

to threatened or endangered species. An intra-service section 7 biological evaluation form will be completed for the final CCP and included as an appendix.

Controlling invasive species

Invasive upland plants are a relatively recent concern at the Complex. Limited control began in 2002. Invasive plants are a threat because they displace native plant and animal species, degrade wetlands and other natural communities, and reduce natural diversity and wildlife habitat values by out-competing native species for light, water, and nutrients.

Because staff at the Complex are so familiar with its refuges, they have a solid sense of the invasive species present, although they have not mapped their locations. Invasive plants are distributed

extensively over each of the refuges, and threaten both aquatic and terrestrial systems. *Phragmites* (*Phragmites australis*), or common reed, dominates virtually all of the more than 300 acres of brackish marsh community at Wertheim refuge, and upland species such as Asiatic bittersweet, an invasive vine, are overtaking grasslands and are beginning to strangle trees in forested areas. Other invasive plants found at the Complex include multiflora rose, Russian olive, and Japanese wisteria.

Once invasive plants have become established, their characteristic abilities to establish easily, reproduce prolifically, and disperse readily make getting rid of them expensive and labor-intensive. Many of them cause measurable economic impacts, particularly in agricultural fields. Preventing new invasions is extremely important for maintaining biodiversity and native plant populations. Controlling affected areas will require extensive partnerships with adjacent landowners and state and local government agencies.

Invasive species that may pose a threat to refuge resources in the future include the cabomba (Carolina sandwort), perennial pepperweed, water chestnut, Asian long-horned beetle, and northern snakehead.

Managing overabundant wildlife populations

Overabundant species, both native and non-native, may degrade habitat quality or the overall integrity of an ecological community. Native species become overabundant when their populations exceed the range of natural fluctuation and the ability of the habitat to support them. Overabundant species like red fox and raccoon may also displace or prey upon species that are being restored like the piping plover.

The non-native mute swan inhabits the Carmans River down to the mouth of the Great South Bay year-round. Mute swans feed solely on submerged aquatic vegetation (SAV). While foraging, each bird consumes an average of eight pounds of SAV per day, including leaves, stems, roots, stolons, and rhizomes (DNR Statewide Management Plan, State of Maryland April, 2003).

Mute swans consume large amounts of SAV that might otherwise be available to native waterfowl. This competition for space and food imposed by mute swans reduces the carrying capacity of breeding, staging, and wintering habitats for native species of migratory waterfowl in the Carmans River where mute swans are established.

Resident Canada geese are well adapted to suburban environments and their populations have generally increased throughout New York. Resident Canada goose populations are high enough to have negatively impacted plantings at wetland restoration sites on, and adjacent to the refuge lands. They are also an important game

animal, and can provide recreational opportunities for New York hunters.

White-tailed deer, a native and overabundant species, are particularly a concern. Dense populations of deer consume all palatable vegetation within reach, leaving “browse lines.” Adjacent landowners complain about deer impacts on landscaping, the increase in vehicle-deer collisions, and the threat of Lyme disease from deer ticks.

Controlling mosquitoes

The use of chemical compounds to control mosquitoes is a controversial topic among Suffolk County residents. The Complex is working with Suffolk County Vector Control to more rigorously manage mosquito populations. One alternative to chemical control is Open Marsh Water Management (OMWM) on the refuges, which we initiated in winter 2004. OMWM is designed to restore the natural tidal flow in the marshes which reduces available mosquito habitat. Mosquitoes and ticks may pose a health risk to humans, but are also part of the ecological system. Mosquitoes are a particularly important food source for aquatic invertebrates, waterfowl, and fish.

Establishing hunting opportunities at the Complex

Hunting surfaced in the scoping process as a key issue, one raised by Service personnel, DEC biologists, and individuals both for and against expanding hunting opportunities on the Complex. The Service views managed hunts in areas where there are overabundant populations as an effective tool for regulating them. Furthermore, hunting is a valid wildlife-dependent recreational use as defined by the Refuge Improvement Act. Responses generally agree that the overabundance of deer is a concern in Long Island, reflected in the increased numbers of vehicle-deer collisions, increased complaints about deer browsing on residential landscape plantings, visible impacts on native vegetation, and concern about contracting Lyme disease.

Those opposed to hunting cited concerns over public safety, disturbance and harm to other wildlife species, and the impact on visitors engaged in other public uses. The latter concern arises from the likelihood that significant portions of the refuges, due to their small sizes and configurations, would be closed to other activities during hunting. Some expressed the opinion that the refuges should function as a sanctuary for all native species, and that hunting is inconsistent with that function.

Increased visibility and partnership communications

The Service recognizes the need to improve the support and recognition of the Friends of Wertheim and establish other friends groups. Establishing a new volunteer program, initiating additional partnerships and, if necessary, formalizing existing partnerships will all help achieve the goals of the CCP.

Developing a Refuge Complex Headquarters and Visitor Center

The Complex lacks adequate funding and personnel to provide all of the programs and services desired by the public and to effectively meet the goals for this CCP. The current headquarters does not have enough office space to accommodate even existing staff, and the visitor services area is limited to one rack of literature in the reception area. The alternatives compare different funding and staffing levels based on their proposed management strategies for dealing with the issues.

Many of the respondents in the scoping phase of planning felt strongly that more refuge staff should be present during peak visitation to increase resource protection and improve visitor services. Respondents also felt existing visitor facilities including kiosks and interpretive signs on trails should be improved. Other recommendations to increase visibility include more visitor contact stations, increasing wildlife interpretation and environmental educational opportunities, a better location for a headquarters office, developing a visitor center for the Complex, increasing support for a volunteer program, and increasing community involvement.

Developing Step-Down Management Plans

Part 4, chapter 3 of the Refuge System Manual (1985) lists more than 25 step-down management plans generally required on most refuges. Step-down plans describe specific management actions refuges will follow to achieve objectives or implement management strategies. Some require annual revision, while others are revised on a 5- or 10-year schedule. Some require additional NEPA analysis, public involvement, and compatibility determinations before they can be implemented. Table 1.4 outlines the status of the step-down plans for the Complex.

Table 1.4. Status of step-down plans for the Complex

Plans now up-to-date	Plans needing revision	Plans yet to be written
Vertebrate Pest Control (Seatuck) Fire Management Hunting (Wertheim)	Public Use*	Land Protection Habitat Management Law Enforcement† Visitor Services‡ Hunting

* Public Use Plan will be updated and replaced by Visitor Services Plan

†to include plans for crowd control and search and rescue

‡to include plans for wildlife-dependent recreation, outreach, education signage, and facilities maintenance

Habitat and Population Management Plans

No habitat management plans have been written for the Complex. Seatuck has a deer population management plan and a draft exists at Wertheim. Both refuges have mosquito management plans. Such plans are vital to the long-term, comprehensive management of these resources.

Resource Protection and Visitor Safety Plan

Some current problems on refuges throughout the Complex include trespassing, illegal construction, vandalism, littering/dumping, dog-walking, and homeless encampments. Thus, we need increased enforcement and outreach for resource management issues associated with public access, public effects, threatened or endangered species protection, deer management, feeding wildlife, and mosquito control.

Visitor Services Plan

Our Public Use Plan is grossly out of date. More and more, the Service is recognizing the importance of visitors to national wildlife refuges. The Improvement Act mandates providing wildlife-dependent recreation opportunities for the public, as long as those opportunities do not conflict with wildlife or habitat management activities. To that end, a needs assessment and subsequent comprehensive visitor services plan that includes plans for wildlife-dependent recreation, outreach, education, signage, and facilities maintenance is needed to better serve visitors to these public lands.

Wilderness Review

Service planning policy requires a wilderness review to determine if any lands and waters held in fee title ownership are suitable to be proposed for designation as a Wilderness Area. Some of the eligibility criteria include lands that are 5,000 contiguous acres or at least large enough to make it practical to preserve and use the land in an unimpaired condition, or a roadless island. The planning team determined that none of the nine units met the minimum criteria identified in the Wilderness Act due to their small size and many permanent roads. Therefore, this CCP/EA does not further analyze their suitability for wilderness designation. The results of the wilderness inventory are included in appendix D

Worth noting, just south of Wertheim National Wildlife Refuge lies the "Otis Pike Fire Island High Dune Wilderness", the only federal-designated wilderness area in New York. It is part of Fire Island

National Seashore operated by the National Park Service. That wilderness area covers 1,363 acres over a 7-mile stretch along the south shore of Long Island.

Issues Outside the Scope of this Environmental Assessment

This CCP does not consider proposals for new, non-wildlife-dependent public uses. Service policy and the Refuge Improvement Act state that incompatible or non-wildlife-dependent recreation will be eliminated as expeditiously as practicable, with few exceptions. The Refuge Manual (8 RM 9.1; 04/82) specifically mentions the need to phase out non-wildlife-dependent activities such as swimming, sunbathing, surfing, motorized boating, jogging, bicycling, and horseback riding. Following public review and comment, the Service published a final compatibility policy in Federal Register Vol. 65, No. 202, pp. 62484–62496 (603 FW 2) on October 18, 2000. That final rule provides more detail on our process for determining which activities are compatible with a refuge’s establishment purpose and management goals.

Decision to Be Made

Our Regional Director will select a preferred alternative based on the Service and Refuge System missions, the purposes for which each of the refuges were established, other legal mandates, public and partner responses to this draft CCP/EA, and the completion of a final CCP/EA. The alternative selected could be the proposed action in the draft CCP/EA, the no-action alternative, or a combination of the actions or alternatives presented. The final decision will identify the desired combination of species protection, habitat management, public use and access, and administration for the Complex. A Finding of No Significant Impact (FONSI) will certify we have met agency compliance requirements and that the CCP, when implemented, will achieve the purposes of the refuges and help fulfill the System mission. Once our Regional Director has signed the FONSI and we have completed the CCP for the Complex, we will notify the public in the Federal Register, and implementation can begin.